

In the Claims:

We Claim:

1. An optical interconnect, comprising:

5 A waveguide holder having a first side and a second side, said first side having a
first depression and said second side having a second depression and said waveguide
holder having an opening therein; and
a plurality of waveguides disposed in said opening.

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Act*

10 2. An optical interconnect as recited in claim 1, wherein said waveguide holder further
comprises a substrate having a lid disposed thereover.

15 3. An optical interconnect as recited in claim 2, wherein said plurality of waveguides are
disposed in a waveguide structure.

20 4. An optical interconnect as recited in claim 3, wherein said waveguide structure is an
integrated optical chip.

25 5. An optical interconnect as recited in claim 2, wherein said substrate has a first side
with a first edge and said lid has a first side with a first edge and said first edges of said
lid and said substrate form said first depression.

30 6. An optical interconnect as recited in claim 2, wherein said substrate has a second side

with a second edge and said lid has a second side with a second edge and said second edges of said lid and said substrate form said second depression.

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7. An optical interconnect as recited in claim 2, wherein said lid has at least one alignment recess and a positioning member is disposed in each of said at least one alignment recesses.
8. An optical interconnect as recited in claim 2, wherein said lid has at least one alignment recess and said substrate has at least one alignment recess, and each of said at least one recesses of said lid is disposed over one of said at least one alignment recesses in said substrate forming an alignment feature; and a positioning member is disposed in each of said alignment cavities.
9. An optical interconnect as recited in claim 2, wherein said substrate and said lid each include at least one complementary alignment feature.
10. An optical interconnect as recited in claim 9, wherein said at least one complementary feature further comprises a pedestal disposed in an alignment recess.
- 20 11. An optical interconnect, comprising:
A substrate having a first side with a first edge and a second side with a second edge;
a plurality of waveguides disposed over said substrate; and

*Alt
(alt)*

a lid disposed on said plurality of waveguides.

12. An optical interconnect as recited in claim 11, wherein said lid has a first side with a first overhang and a second side with a second overhang, and said first overhang and said first edge forms a first depression and second overhang and said edge form a second depression.

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